Union Oil Company of California

205 EAST WASHINGTON AVENUE LOVINGTON, NEW MEXICO

UNIT OPERATOR
SOUTH CAPROCK QUEEN UNIT

August 8, 1962

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Re: Expansion of Waterflood Project,
South Caprock Queen Unit,
Chaves County, New Mexico,
Case No. 2032, Order No. R-1729
and R-1729-A

Dear Mr. Porter:

The Union Oil Company of California, as Operator of the South Caprock Queen Unit in Chaves County, hereby requests administrative approval for the expansion of the waterflood project area and approval to convert an additional five wells in the project area to water injection service. This request is submitted pursuant to the provisions of Rule 701-E, Paragraph 5, of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Water injection in the South Caprock Queen Unit began on May 23, 1961 into ten wells situated along the contact between the gas cap and the oil zone. The purpose of this initial pattern was to prevent the migration and loss of recoverable secondary oil into the gas cap. In April, 1962, the project area was expanded and seven more wells were placed on injection (Administrative Order WFX-102). As of August 1, 1962, 3,720,869 barrels of water have been injected into seventeen wells.

Stimulation from water injection has now been observed in three additional wells. The five wells proposed for conversion to input service are all offsets to the three stimulated producers. One of the proposed injectors is to replace a well with damaged (and repaired) casing (Tract II, Well 12-5). The proposed replacement well (Tract II, Well 11-5) is recommended for conversion for the following reasons:

1. The well is along the gas-oil contact zone even though down structure from Well 12-5 thereby being in a position to seal off this section of the gas cap to prevent possible loss of oil.

2. The well falls into the regular five-spot waterflood pattern of the main body of the field.

3. The well is a direct offset to a stimulated producing well (Tract II, Well 14-5).

4. Further injection into Well 12-5 is deemed risky even though the well has been repaired. The casing in the well was damaged above the Queen Sand and considerable injection water was lost to thief zones in the "salt" section above the Queen Sand. In the process of repairing the casing in Well 12-5 a scab liner was cemented over the hole in the pipe. The well can no longer be used for injection purposes because of this scab liner.

The other four wells are all a part of the master plan of operation for the project as presented at the hearing on Case No. 2032. This was Union's application for authority to institute a waterflood project in the South Caprock Queen Unit.

In support of this application, the following are attached:

Exhibit I - A plat of the South Caprock Queen Unit showing the present project area, the proposed expanded project area, and the location of all injection and producing wells. The three new stimulated wells and the five wells to be converted are identified on the plat. Because this is a unit operation, there are no other offset operators who will be affected by this proposed expansion.

Exhibit II - Commission Form C-116, showing production tests of the three stimulated wells both before and after being affected by the flood.

Exhibit III - A table showing the casing program of the five proposed injectors.

Conversion of the five wells is recommended to maintain proper control of the advancing flood front. This will permit a more efficient sweep of the project area.

By copy of this application, the State Engineer is being advised of the proposed conversions. Attached is a copy of our transmittal letter to the State Engineer's Office.

Three copies of this letter and supporting data are transmitted herewith, as requested in Rule 701-E. Please let me know if any additional information is required for this application.

Very truly yours,

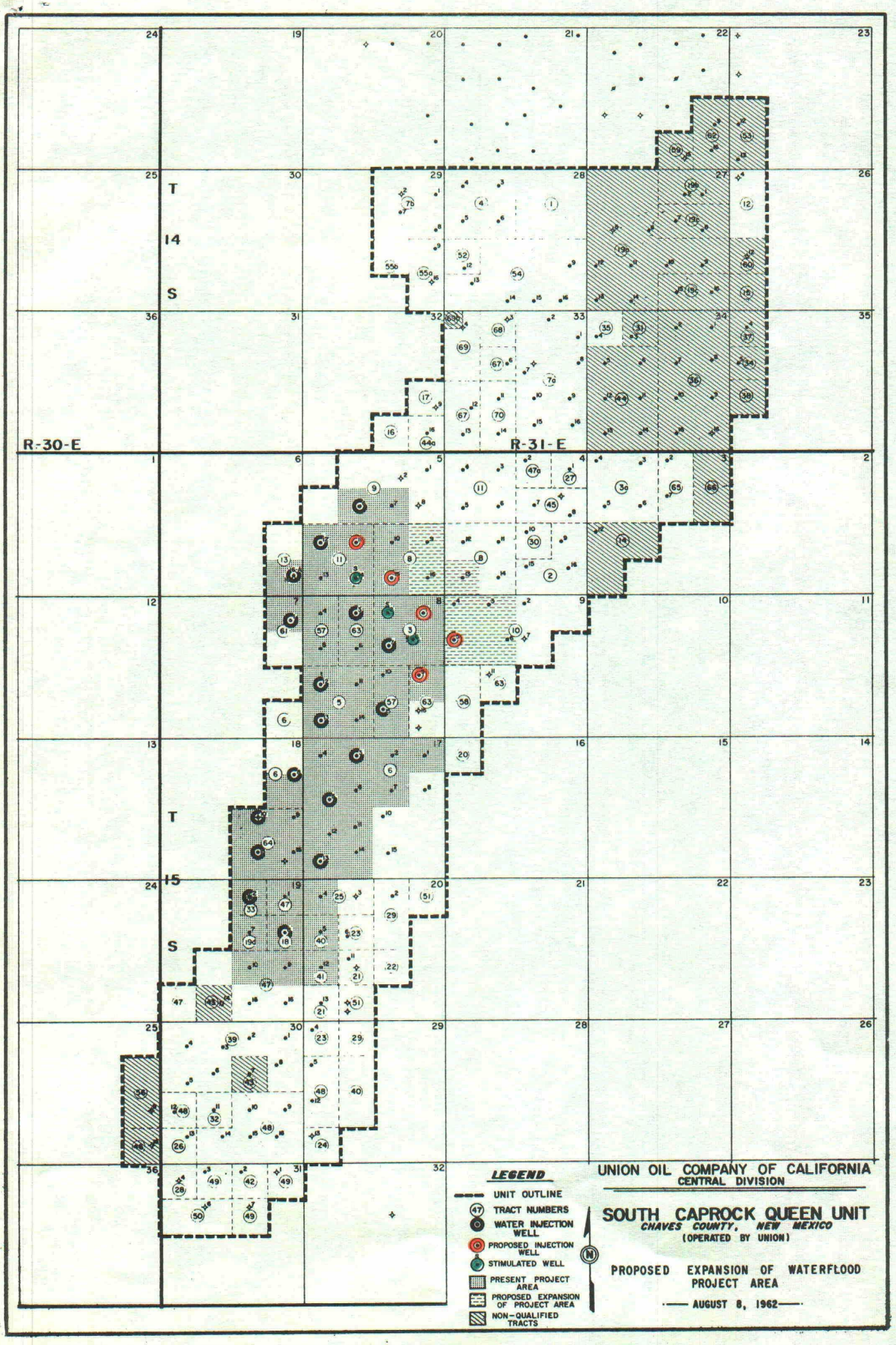
Richard H Butler

Richard H. Butler
Unit Engineer

Enclosures (4)

cc: Mr. Frank Irby
State Engineer Office

RHB:am


T 14 S
T 15 S
R-30-E
R-31-E
LEGEND
UNIT OUTLINE
TRACT NUMBERS
WATER INJECTION WELL
PROPOSED INJECTION WELL
STIMULATED WELL
PRESENT PROJECT AREA
PROPOSED EXPANSION OF PROJECT AREA
NON-QUALIFIED TRACTS
N
UNION OIL COMPANY OF CALIFORNIA
CENTRAL DIVISION
SOUTH CAPROCK QUEEN UNIT
CHAVES COUNTY, NEW MEXICO
(OPERATED BY UNION)
PROPOSED EXPANSION OF WATERFLOOD PROJECT AREA
AUGUST 8, 1962

Form C- 116
Revised (12/1/55)

NEW MEXICO OIL CONSERVATION COMMISSION EXHIBIT NO. 11

GAS-OIL RATIO REPORT

OPERATOR Union Oil Company of California POOL Caprock Queen Pool, South Caprock Queen Unit

ADDRESS 205 East Washington Lovington, New Mexico MONTH OF , 19

SCHEDULED TEST COMPLETION TEST SPECIAL TEST* X (Check One)

(See Instructions on Reverse Side) *Tests to verify Waterflood stimulation

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
		1962								
1. Tract 3	2-8	6-25	P	-	24	11	0	8	TSTM	-
Tract 3	2-8	8-1	P	-	24	100	0	33	"	-
2. Tract 3	8-8	6-16	P	-	24	7	0	3	"	-
Tract 3	8-8	7-10	P	-	24	25	0	11	"	-
3. Tract 11	14-5	6-29	P	-	24	25	0	11	"	-
Tract 11	14-5	7-25	P	-	24	25	0	30	"	-

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

(I certify that the information given is true and complete to the best of my knowledge.)

Date August 7, 1962

Union Oil Company of California
Company

By Richard H. Butler
Richard H. Butler
Unit Engineer
Title

EXHIBIT III

SOUTH CAPROCK QUEEN UNIT
Chaves County
CASING DATA FOR PROPOSED INJECTION WELLS

8-7-62

Tract	Well	TD	ETD	Perforations
11	11-5	3159'	3143'	3109'-3116'
8	15-5	3143'	3143'	OH 3125'-3143'
3	1-8	3156'	3154'	3139'-3149'
10	5-9	3175'	3174'	3152'-3162'
63	9-8	3170'	3169'	3150'-3162'

SURFACE CASING

Tract	Well	Size	Setting Depth	Cement Sacks	Circ.	Grade Pipe	Weight Lbs/Ft.	Age, Years	Condition
11	11-5	10 3/4"	326	250	Yes	J-55	41	7	New
8	15-5	8 5/8"	342	275	Yes	J-55	24	7	New
3	1-8	8 5/8"	302	175	Yes	J-55	24	7	New
10	5-9	8 5/8"	312	200	Yes	J-55	24	7	New
63	9-8	9 5/8"	309	200	Yes	J-55	36	12	Good

OIL STRING

11	11-5	5 1/2"	3145'	150		J-55	15.5	7	New
8	15-5	5 1/2"	3125'	203		J-55	14	7	New
3	1-8	5 1/2"	3155'	200		J-55	15.5	7	New
10	5-9	5 1/2"	3174'	175		J-55	14	7	New
63	9-8	5 1/2"	3169	175		J-55	14	7	New

Union Oil Company of California

205 EAST WASHINGTON AVENUE LOVINGTON, NEW MEXICO

UNIT OPERATOR
SOUTH CAPROCK QUEEN UNIT

August 8, 1962

Mr. Frank Irby
Chief of Water Rights Division
State Engineer Office
State Capitol
Santa Fe, New Mexico

Re: Casing Data on Proposed Injection Wells,
South Caprock Queen Unit,
Chaves County, New Mexico

Dear Mr. Irby:

Attached please find a copy of an application submitted by the Union Oil Company of California to the New Mexico Oil Conservation Commission requesting administrative approval to expand our waterflood project in the South Caprock Queen Unit. This expansion will include the conversion of an additional five producing wells to water injection service. The application is in accordance with Rule 701-E of the Rules and Regulations of the New Mexico Oil Conservation Commission.

Exhibit III of the attached application is a table of casing information on the five proposed injection wells. All five wells will be completed with plastic lined tubing and tension type packers set just above the perforations (in the Queen Sand). The annulus between the casing (oil string) and the tubing will then be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the five wells will be 1300 P.S.I.G.

Data on the age, grade and condition of the various casing strings in the five wells are tabulated in Exhibit III.

If you are in agreement with this proposal, we would appreciate your so notifying the Secretary-Director of the Oil Conservation Commission as soon as possible. Thank you for your consideration of this matter.

Very truly yours,

Richard H. Butler

Richard H. Butler
Unit Engineer

cc: Mr. A. L. Porter, Jr. (3)

RHB:am

STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

August 21, 1962

ADDRESS CORRESPONDENCE TO:
STATE CAPITOL
SANTA FE, N. M.

Mr. A. L. Porter, Jr.
Secretary-Director
Oil Conservation Commission
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Union Oil Co. of California dated August 8, 1962 seeking administrative approval to expand their water flood project in the South Caprock Queen Unit, Chaves County, New Mexico. This expansion will include the conversion of an additional five producing wells to water injection.

In view of the statements: "All five wells will be completed with plastic lined tubing and tension type packers set just above the perforations (in the Queen Sand). The annulus between the casing (oil string) and the tubing will then be filled with an inhibited water for protection against corrosion. The maximum anticipated surface injection pressure for the five wells will be 1300 P. S. I. G.," this office offers no objection to the granting of this application.

Yours truly,

S. E. Reynolds
State Engineer

By: Frank E. Irby
Frank E. Irby
Chief
Water Rights Division

ma
cc-Union Oil Co. of California
Attn. Mr. Richard H. Butler
Unit Engineer
Lovington, N. M.

F. H. Hennighausen